

## **Prof. Marco Vincenti**

*Full Professor of Analytical Chemistry at the University of Turin (Italy)*

*Director of the Department of Chemistry – University of Turin (Italy)*

*Member of the Academic Senate and President of the Senate Commission for Human Resources*

*Scientific Director of the Regional Antidoping Center and Regional Toxicology Laboratory*

*“Alessandro Bertinaria” - Orbassano (Turin)*

- **Birth:** February 6th, 1959 – in Torino (Italy)

### Education:

- 1982 July: MS Degree in Chemistry - University of Turin – Grade: 110/110 *cum laude*
- 1982 November: Qualification as a professional Chemist

### Professional Experience:

- 1983 January-July: Product Manager Junior for diagnostic imaging products at the Bracco Industrie Chimiche S.p.A. - Milano
- 1983 August-October: Stage at the Ecole Polytechnique Federal - Lausanne (Switzerland) under the supervision of Prof. Michael Graetzel
- 1983 November - 1990 October: Scientist in charge for the Mass Spectrometry Laboratory at the Istituto Guido Donegani (Montedison corporate research center) in Novara - Italy
- 1986 July-December: Visiting Scientist in the "Aston Laboratory" of Prof. Graham R. Cooks at the Purdue University (West Lafayette, Indiana, U.S.A.)
- 1990 November - 1998 October: Assistant Professor at the Department of Analytical Chemistry of the University of Turin.
- 1998 November - 2006 September: Associate Professor at the University of Turin.
- 2006 October - present: Full Professor at the Department of Chemistry - University of Turin, upon successful participation to a national competitive selection.

### Current teaching subjects:

- - Instrumental Analytical Chemistry
- - Mass Spectrometry
- - Chemometrics
- - Statistical data analysis and analytical methods validation

### Scientific figures-of-merit:

ORCID: [orcid.org/0000-0002-6275-7194](https://orcid.org/0000-0002-6275-7194)

Google Scholar: <https://scholar.google.it/citations?user=psAo9C8AAAAJ&hl=it>

Google Scholar: Citations: 4907 H-index: 41 i10-index: 109

Scopus Author ID: 7006721679 Citations: 3816 H-index: 36

ResearcherID: M-3495-2015 Citations: 3701 H-index: 35

### Publications:

- - Author/co-author of 160 publications on peer reviewed international journals with impact factor
- - Author/co-author of 8 chapters of international books (in English)
- - Co-author of 5 international patents

### Institutional Activity:

- 2000 - 2010: President of the teaching board - Master program in "Clinical, Forensic Chemistry and Doping Control"
- 2010 2015: President of the teaching board - Bachelor program in "Chemistry & Chemical Technologies"
- 2012 – 2015: Vice-Director of the Department of Chemistry – University of Turin

- 2015 - present: Director of the Department of Chemistry – University of Turin
- 2015 – present: Member of the Academic Senate – University of Turin
- 2005 - present: President of the Scientific Committee - "Piedmontese Consortium for the Doping Prevention and Fight against any Illegal Use of Drugs"
- 2008 - present: Scientific Director - Regional Antidoping Center and Regional Toxicology Laboratory "A. Bertinaria" - Orbassano (Turin).

#### Membership of Scientific Societies:

- Italian Chemical Society (SCI)
- American Society for Mass Spectrometry (ASMS)
- International Association of Forensic Toxicologists (TIAFT)
- Society of Hair Testing (SoHT) – Board Member
- Italian Group of Forensic Toxicologists (GTFI)

#### Scientific and Research Activity:

Prior to joining the University of Torino in 1990, Prof. Vincenti worked for 7 years in the corporate research center of the major Italian chemical industry (Istituto Guido Donegani – Montedison Group – Novara, Italy), as the person in charge of the mass spectrometry lab. In 1986, he was Visiting Scientist in the "Aston Laboratory" of Prof. Graham R. Cooks at the Purdue University (Indiana - USA). He investigated innovative tandem mass spectrometric techniques, associated with collisional activation on solid surfaces and gases. He also developed new ionization and excitation procedures for the structural determination of new drugs and biomolecules, polymeric materials and industrial products.

In the period 1990-1992 he published pioneering studies involving host-guest supramolecular interactions in the gas phase, which opened a new research field still very active. In the same years he collaborated with Prof. Donald Cram, UCLA, Nobel Prize for Chemistry.

From 1993, he started studying new derivatizing reagents (hydrophobic chloroformates) for the determination of highly hydrophilic organic and biological molecules directly in the water matrix (natural and drinking water, biological fluids) and collaborated with the U.S. Environmental Protection Agency (Cooperative Agreement R-82795101-1) for the determination of new and unexpected by-products of water disinfection processes.

In the same years he collaborated with the research group of Prof. Ezio Pelizzetti, in the characterization of the degradation by-products originating from micro-pollutants treated by advanced oxidation technologies (photocatalysis). He also collaborated to the research addressed to the formation mechanisms of organic micro-pollutants in the atmosphere.

In the years 2000, he progressively re-oriented his research interests that were addressed to the applications of mass spectrometry and analytical chemistry in the forensic, toxicological and clinical areas, in agreement with his new teaching mission within the Master program in "Clinical, Forensic Chemistry and Doping Control".

Currently, his research interests are addressed to the analytical determination and structural characterization of biological markers, drugs of abuse, and psychoactive drugs. He also investigates the biochemical effects produced by the administration of anabolic substances illegally utilized in the animal husbandry and sport practice. All these activities involve the development of innovative methods of multivariate data-analysis together with the optimization and exploitation of metabolomics and chemometrics approaches. The latter also include the pioneering application of Bayesian statistical methods to the clinical and toxicological fields of interest.

He also collaborates with pharmacologists and pathologists for in-vivo pharmacokinetics and metabolism studies of doping agents illegally utilized in sport and animal husbandry.

He develops new analytical methods on alternative biological matrices (oral fluid, hair, sweat) for detecting the administration (conscious, unaware or forced) of psychoactive substances, drugs of abuse and rape-drugs. He also studies alcohol abuse by multivariate chemometric approaches and Bayesian statistical modelling.

He collaborates with the R.I.S. Carabinieri of Rome and Parma for the profiling of seized drugs, as well as the development and validation of new preparations for evidencing latent blood traces. He also collaborates with the investigative Police, Bench, regional Government and forensic Pathologists for the analysis of seized preparations, drugs and biological samples arising from post-mortem examinations.

Under his Direction, the Regional Antidoping Center "A. Bertinaria" became Reference Laboratory for Toxicology and obtained ISO/IEC 17025 accreditation (since 2011) for a large number of analytical methods used for the determination of psychoactive drugs, alcohol abuse markers and drugs of abuse in a variety of biological matrices. At present the Laboratory executes more than 300,000 analytical determinations/year on more than 65,000 biological samples/year; it is also the Laboratory processing the highest number of hair samples per year (18,000).

In his scientific activity, he co-authored several publications with Prof. Cooks (Purdue University), Member of the U.S. National Academy of Sciences, and Prof. Donald Cram (UCLA), Nobel Prize for Chemistry.

He also collaborated and co-authored papers with Dr. Robert Blackledge (Forensic Laboratory of the U.S. Navy, S. Diego, CA), Ph.D. Susan Richardson (Environmental Protection Agency, Athens, GA, USA), Prof. Pirjo Vainiotalo (University of Joensuu, Finland), Prof. Mario Thevis (German Sport University Cologne, Germany), Prof. Markus Baumgartner (University of Zurich, Switzerland), Prof. Ian Dadour (Boston University School of Medicine, Boston, MA), Prof. Joseph Palamar (New York University, New York, NY), Prof. Grzegorz Zadora (University of Silesia, Katowice, Poland).